N° 24,783 A.D. 1909

Date of Application, 28th Oct., 1909

Complete Specification Left, 18th Apr., 1910—Accepted, 13th Oct., 1910

PROVISIONAL SPECIFICATION.

Improved Dental Syringe.

We, HENRY SOLOMON WELLCOME, of Snow Hill Buildings, in the City of London, Manufacturing Chemist, and CHARLOTTE JOHNSON, of Snow Hill Buildings, in the City of London, Chemist's Assistant, do hereby declare the nature of this invention to be as follows:—

Our improved dental syringe is fitted with a finger grip bar which is adjustable to various positions on the syringe barrel. The adjustment is effected by providing one or more internal peripheral spring or springs within the finger grip bar. Each of the said springs is provided with one or more projecting member or members which engages or engage with indentations, slots, or recesses in or upon the outer surface of the syringe barrel.

Our improved dental syringe is provided with an all-metal piston which so exactly fits the bore of the syringe barrel that no piston packing is required.

Our improved dental syringe is provided with a needle mount holder which is adjustably affixed to the syringe nozzle by means of a combined friction and bayonet catch.

The needle mount holder is provided with an internal thread which engages with a thread upon the needle mount. The needle mount is preferably fitted with two needles, in which case it is reversible.

In our improved dental syringe the piston rod is surmounted by a head of a shape adapted to conveniently rest in the palm of the hand, and is preferably grooved externally.

All of the parts of our improved dental syringe are preferably made of metal to facilitate sterilization; and to overcome deficiencies in ordinary dental syringes due to deterioration of packings and washers, which are usually present upon the piston and at the ends of the syringe barrel, our improved dental syringe is constructed so that no packings or washers of any description are employed.

Dated the Twenty-eighth day of October, 1909.

HENRY S. WELLCOME,
By his Attorney, Geo. E. Pearson.
CHARLOTTE JOHNSON.

COMPLETE SPECIFICATION.

Improved Dental Syringe.

We, HENRY SOLOMON WELLCOME, of Snow Hill Buildings, in the City of London, Manufacturing Chemist, and CHARLOTTE JOHNSON, of Snow Hill Buildings, in the City of London, Chemist's Assistant, do hereby declare the nature

[*Price 8d.*]

of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The principal object of our invention is to provide an improved dental syringe in which the finger grip bar may be adjustably affixed on to the syringe barrel in a number of positions for the convenience of the operator.

We have also recognised that the construction of dental syringes in which packings and washers are employed necessitates frequent renewal of packings and washers on account of their becoming worn, or on account of their deterioration through sterilizing the instrument, and that a dental syringe free from packings and washers would offer advantages over those commonly in use.

Our objects are achieved by the production of our improved dental syringe, hereafter particularly described with reference to the accompanying drawings, annexed to and forming part of this specification in which:—

Figure 1 is a view in side elevation of a syringe constructed in accordance with our invention, provided with adjustable finger grip bar and fitted with needle mount and dental needle.

Figures 2, 3, 4 and 5 show alternative needle mounts and alternative dental needles, in perspective and section.

Figure 6 shows the adjustable finger grip bar.

Figure 7 is a detailed sectional view of the adjustable finger grip bar.

Figure 8 shows the improved shape of head of the dental syringe piston, in perspective and section.

Our improved dental syringe is provided with an all-metal piston (*a*), which so exactly fills the bore of the syringe barrel that no piston packing is required, and our syringe is devoid of washers at the respective unions of the syringe nozzle and the syringe cap with the syringe barrel.

No screw threads are employed in our syringe (excepting in the engagement of the dental needles with the needle mounts), but in their place combined friction and bayonet catches (*b*) are used.

The piston rod (*c*) is graduated and an adjustable revoluble nut (*d*) regulates the amount of medicament discharged.

The nozzle (*e*) engages with a needle mount, and the needle mount is tapped to receive screw (*f*) on either side of needle.

A finger grip bar (Figure 6) is adjustably affixed on to the syringe barrel by the engagement of a projecting member fixed upon internal peripheral springs (*g*) with indentations, slots, or recesses (*h*) upon the dental syringe barrel. We are aware that it is not in itself new to slidably mount a finger grip bar on a syringe barrel by frictional adjustment. Our improvement lies in the provision of means for locking the finger grip bar in various positions along the syringe barrel.

A head piece of improved shape (*i*) is affixed to the end of the piston rod.

The detailed construction of finger grip bar is shown in Figures 6 and 7.

We have found that external projections forming two series of indentations, slots, or recesses, one series on either side of the syringe barrel, effectively hold rigid the finger grip bar, as illustrated in Figure 1, but a single series, or a larger number of series of indentations, slots, or recesses, with a suitable decrease or increase in the number of projecting members upon internal peripheral springs would not materially affect the utility of our invention.

In practice the projecting member or members of internal peripheral springs (*g*) within the finger grip bar hold the finger grip bar rigidly in position by pressing against the syringe barrel within the indentation, slot, or recess, in which it is disposed. The finger grip bar Figure 6, is released from engagement with syringe barrel by a circular movement of the finger grip bar which withdraws the projecting member or members of internal peripheral springs (*g*) from engagement with the indentation, slot or recess in which it is disposed.

The finger grip bar may then be slidably moved along the syringe barrel and secured in another position by a similar engagement.

The head of the piston rod is shaped to conveniently rest in the palm of the hand of the operator, and it may be provided with an external grooving to facilitate control over the instrument when in use.

Combined friction and bayonet catches of common type are employed to secure the mount holders to the syringe nozzle, and syringe nozzle to syringe barrel, and proximal cap to syringe barrel; such form of engagement being found best suited to the requirements of the operator.

When it is desired to sterilise the syringe, this form of engagement enables the operator to connect or disconnect the various parts with expedition. This simple form of engagement also keeps in better condition than the screw thread form of engagement which it supersedes.

The screw threaded dental needle may be reversible, and the base may be provided with a milled edge, as illustrated, to facilitate handling. We are aware that heretofore hypodermic syringes have been provided with double-ended needles. Our improvement is the provision of a reversible needle which is screw threaded.

Care has been exercised in designing the position of the slots forming bayonet catches, and of the pins (*j*) which engage therewith, so as to avoid tearing away the tongue portions of the bayonet catches.

The syringe nozzle may be provided with more than two slots to form bayonet catches so as to give the operator the choice of more than two positions when using the grooved dental needles.

The curved needle holder and the arms of the finger grip bar are so mounted as to all lie in approximately the same plane, as shown in Figure 1.

In use it is of primary importance that the instrument may be conveniently rendered sterile, and that the parts when in actual use will not cause the needle to vary in position from that intended by the operator. Our improved dental syringe gives the desired rigidity, the various parts being so arranged to engage with each other as to give the operator greater control over the instrument than could be exercised over a syringe constructed with threaded joints.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is;—

(1). In a dental syringe constructed without washers or packings a finger grip bar slidably mounted on and in engagement with syringe barrel with means for locking it in various positions along the syringe barrel, substantially as described.

(2). In a dental syringe constructed without washers or packings a finger grip bar slidably mounted on and in engagement with syringe barrel and provided with means for locking it in various positions along the syringe barrel and the syringe having a piston head shaped as shown in Figure 8, substantially as described.

(3). In a dental syringe constructed without washers or packings a finger grip bar slidably mounted on and in engagement with syringe barrel and provided with means for locking it in various positions along the syringe barrel and the syringe having a piston head shaped as shown in Figure 8, and provided with reversible screw threaded dental needles, substantially as described.

Dated the 18th day of April, 1910.

HENRY S. WELLCOME,
By his Attorney, Geo. E. Pearson.
CHARLOTTE JOHNSON.

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A.D. 1909. Oct. 28. № 24,783.

WELLCOME & another's COMPLETE SPECIFICATION

(1 SHEET)

FIG. 1.

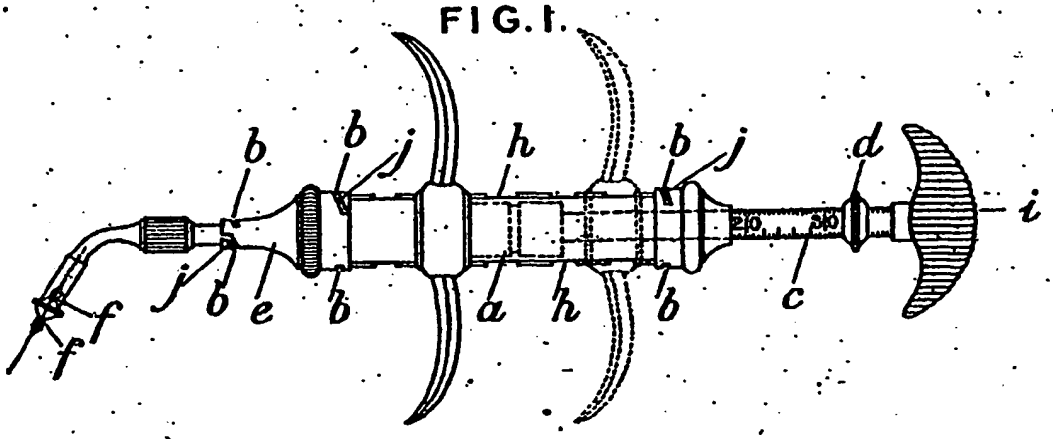


FIG. 2.

FIG. 3.

FIG. 4.

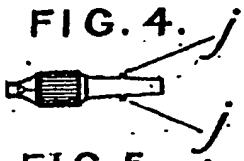


FIG. 5.

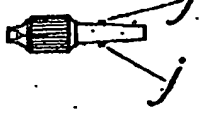


FIG. 6.

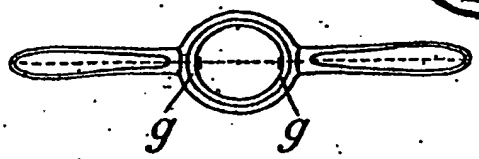
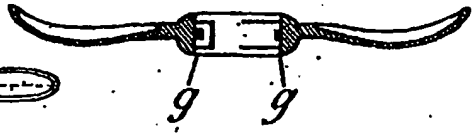


FIG. 7



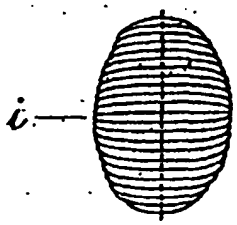
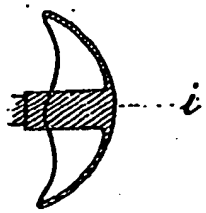


FIG. 8.



Malby&Sons, Photo-Litho.